

Application No. 10/014,626
Amendment dated November 22, 2004
Reply to office action dated August 23, 2004

Remarks/Arguments

Applicant has received and carefully reviewed the Office Action mailed August 23, 2004, setting a three month shortened statutory period for response ending November 23, 2004. Claims 1-28, 30 and 32 remain pending. The format of claims 22 and 28 has been altered to clarify the elements of the claim. No new matter has been added. Reexamination and reconsideration are respectfully requested.

Rejections under 35 U.S.C. § 102(b)

Claims 1, 2, 9-12, 14, 16-21, and 24-27 are rejected as being anticipated by Hibino et al. (US 5,510,990). Applicant respectfully traverses the rejection.

The Examiner asserts that Hibino et al. teach, at column 7, lines 35-65, a data processor for combining the location data from selected sensors to generate a value indicative of the most likely position of the object. This section of Hibino et al., however, is directed to the embodiment in which a single distance sensor 8 provides a preceding vehicle probability distribution. Even in the embodiment having three sensors 8a, 8b, 8c, described at column 11, line 46 through column 12, line 47, Hibino et al. fail to teach a data processor for combining the location data and the associated sensor uncertainty distributions and generating a value indicative of the most likely position of the object. Instead, Hibino et al. specifically teach "the highest probability is selected from among the first, second, and third preceding vehicle probabilities to determine which of the intervehicle distance sensors assumes that probability" (emphasis added). See Hibino et al. at column 12, lines 33-36. Hibino et al. go on to teach proceeding to a step in which "distance data provided by the intervehicle distance sensor selected" in the prior step is used to determine a target change rate of speed (emphasis added). Hibino et al. thus teach using the data from one of the three sensors, but does not teach a processor that combines the location data and associated uncertainty distributions from the sensors to generate a value indicative of the most likely position of the object, as is recited in independent claims 1 and 24. The system of Hibino et al. appears to merely "select" one of the three sensors that is most likely to be accurate and use the data from that single sensor for the further calculations for determining a target change of speed. Thus, there

Application No. 10/014,626
Amendment dated November 22, 2004
Reply to office action dated August 23, 2004

is no teaching or suggestion in Hibino et al. of a processor that combines the location data and the associated sensor uncertainty distributions to generate a value indicative of the most likely position of an object. Hibino et al. fails to teach or suggest each element of independent claims 1 and 24 and thus also fails to teach the elements of the claims dependent thereon. Withdrawal of the rejection is respectfully requested.

In addition, and with respect to claim 19, claim 19 recites that the system is adapted for tracking the relative location of a plurality of objects. Hibino et al. also fail to teach or suggest this feature. The system of Hibino et al. appears to be directed to the determination of the distance between a car and a single car or object in front of it. Applicants have carefully reviewed the Hibino et al. reference and have found no teaching or suggestion that the system can track the relative location of a plurality of objects. The Examiner points to column 11, lines 52-62 of Hibino et al. for a teaching of tracking the relative location of a plurality of objects. This portion of Hibino et al., however, actually teaches the embodiment having three distance sensors, one for forward detection, one for leftward detection, and one for rightward detection. As stated above, in this embodiment, Hibino et al. teach the system selecting one of the detectors as providing the most accurate distance to an object preceding the car. Even if each of the three detectors detected a different object, the system of Hibino et al. selects only one detector and uses its data for further calculations, discarding the data from the other two detectors. This is based on the assumption that the other detectors likely detected billboards or highway signs instead of a car. Hibino et al. do not teach or suggest their system as tracking the relative location of a plurality of objects, as is recited in claim 19.

Also, claim 20 recites that the system includes a plurality of radar systems and claim 21 recites the plurality of sensors includes a plurality of beacon systems. The Examiner points to column 2, lines 11-13 of Hibino et al. as teaching these elements. The portion of Hibino et al. on which the Examiner relies merely describes the invention as providing an automotive radar system. There is no teaching or suggestion in Hibino et al. of their system involving a plurality of radar or beacon systems. Withdrawal of the rejections is respectfully requested.

Application No. 10/014,626
Amendment dated November 22, 2004
Reply to office action dated August 23, 2004

Rejection under 35 U.S.C. § 103

Claims 22, 23, 28, 30, and 32 are rejected as being unpatentable over Hibino et al. Applicant respectfully traverses the rejection.

Independent claims 22 and 28 recite a system including a plurality of local systems and claim 32 recites two or more local systems. The claims also recite the overall system having a data processor that combines location data from selected local systems to generate a value indicative of the most likely position of the object. Hibino et al. teach a single radar system in a car for detecting a preceding car and adjusting speed accordingly. There is no motivation for modifying the system of Hibino et al. to include a plurality of local systems because the system is concerned with what objects may be in front of a single car. Adding more systems would be redundant.

The Examiner cites case law in support of the statement that while Hibino et al. do not disclose local systems, it would have been obvious to make a plurality of local systems as claimed because mere duplication of essential working parts of a device involves only routine skill in the art. Applicants respectfully disagree. The claimed system does not involve mere duplication of essential working parts of a device. The claimed system and methods involve combining the location data received from the plurality of local systems to generate the most likely position of the object. As stated above, Hibino et al. teach selecting the data from one out of three sensors in a system for further calculations. Duplicating the essential elements of Hibino et al. would result in more than three sensors being used, but still selecting only one sensor as providing the most likely distance to the preceding vehicle. Thus, even if one were to duplicate the elements of Hibino et al, one does not achieve the instantly claimed invention.

In the Response to Amendment section on page 8 of the Office Action, the Examiner states that, with respect to claim 22, the recitation "A system to determine a global position of an object, said system comprising a plurality of local systems with each local system providing a value indicative of the most likely position of the object wherein each of the local systems includes" has not been given patentable weight because it is a preamble.

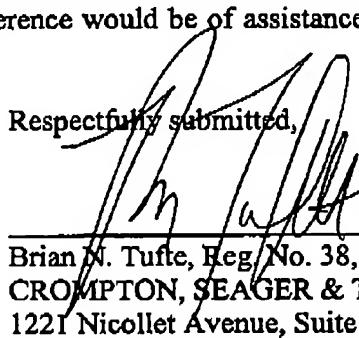
Application No. 10/014,626
Amendment dated November 22, 2004
Reply to office action dated August 23, 2004

Applicant respectfully disagrees. The preamble of claim 22 is "A system to determine a global position of an object, said system comprising". The remaining language that the Examiner has not considered actually recites physical elements contained with the system being claimed. The plurality of local systems is a physical element with structure and function. The formatting of claim 22 has been changed to clarify what part is the preamble and what part contains the structural elements. Additionally, MPEP 2111.02, citing *Pitney Bowes, Inc. v Hewlett-Packard Co.*, 51 USPQ2d 1161, 1165-1166, states that, "If the claim preamble, when read in the context of the entire claim, recites limitations of the claim... then the claim preamble should be construed as if in the balance of the claim." (Emphasis added). MPEP 2111.02 further states, "terminology in the preamble that limits the structure of the claimed invention must be treated as a claim limitation." In giving the recitation of a plurality of local systems no patentable weight, the Examiner has effectively ignored a structural element of the claimed system. MPEP 2143.03 states that in order to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. The Examiner has not provided a teaching or suggestion of a plurality of local systems, which is a structural element of the claim; thus not every claim limitation has been addressed. Withdrawal of the rejection is respectfully requested.

In view of the foregoing, it is believed that all pending claims 1-28, 30 and 32 are in condition for allowance. Issuance of a notice of allowance in due course is respectfully requested. If a telephone conference would be of assistance, please contact the undersigned attorney at 612-677-9050.

Respectfully submitted,

Dated: November 22, 2004



Brian N. Tufte, Reg. No. 38,638
CROMPTON, SEAGER & TUFTE, LLC
1221 Nicollet Avenue, Suite 800
Minneapolis, MN 55403-2402
Telephone: (612) 677-9050
Facsimile: (612) 359-9349